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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,994	01/31/2001	Masashi Morizane	P107336-00016	8286

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EXAMINER	
MUTSCHLER, BRIAN L	
ART UNIT	PAPER NUMBER
1753	

DATE MAILED: 08/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/772,994	MORIZANE ET AL.	
	Examiner	Art Unit	
	Brian L. Mutschler	1753	

-- Th MAILING DATE of this communication appears on th cover sheet with th correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-7,9-11 and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6* is/are allowed.

6)☒ Claim(s) *1-3,7,9 and 11* is/are rejected.

7)☒ Claim(s) *5 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Comments

1. Applicant's cancellation of claims 4 and 8 in Paper No. 18 is acknowledged.

2. The rejection of claims 1-3 and 7 under 35 U.S.C. 102(e) over Yamagishi et al. (U.S. Pat. No. 6,300,556) has been overcome by Applicant's amendment because Yamagishi et al. do not teach or suggest the formation of a separate water transmission preventing layer between the light transmitting member and the rear surface resin film, as recited in amended claim 1.

3. The rejection of claims 1-3 and 7 under 35 U.S.C. 102(e) over Kondo (U.S. Pat. No. 6,271,053) has been overcome by Applicant's amendment because Kondo do not teach or suggest the formation of a separate water transmission preventing layer between the light transmitting member and the rear surface resin film, as recited in amended claim 1.

4. The rejection of claims 1-3, 5, 7, 8 and 10 under 35 U.S.C. 103, using Dran et al. (U.S. Pat. No. 4,321,418) as the primary reference, has been overcome by Applicant's amendment. The device of Dran et al. neither teaches nor suggests the formation of the fluid-tight layer between the light transmitting member and the rear surface resin film, as recited in amended claim 1.

5. The rejection of claims 4, 5 and 8-10 under 35 U.S.C. 103, using Yamagishi et al. (U.S. Pat. No. 6,300,556) as the primary reference, has been overcome by Applicant's amendment because Yamagishi et al. do not teach or suggest the formation of a

separate water transmission preventing layer between the light transmitting member and the rear surface resin film, as recited in amended claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-3, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iino et al. (U.S. Pat. No. 6,407,329) in view of Yamagishi et al. (U.S. Pat. No. 6,300,556), with evidence provided by Komada et al. ("Novel Transparent Gas Barrier Film Prepared by PECVD Method", 43rd Annual Technical Conference Proceedings of the Society of Vacuum Coaters, (April 15-20, 2000) pp. 353-356).

Regarding claim 1, Iino et al. disclose a solar cell module comprising a plurality of solar cell elements **7** sealed within an EVA sealing resin **6** and having a light transmitting member **8** on the front surface and a rear surface resin film **3** (fig. 3; col. 2, line 55 to col. 4, line 17). A moistureproof film **2** is formed between the rear surface film **3** and the front surface light transmitting member **8** (fig. 3).

Regarding claim 2, the light transmitting member **8** on the front side is made of glass and the rear surface resin film is a fluororesin (col. 3, lines 39-45), including fluororesins that are transparent.

Regarding claims 3 and 9, the moistureproof film comprises a layer of PET and a layer of silica or alumina and the sealing resin is EVA (col. 2, line 55 to col. 4, line 17). As shown by Komada et al. typical WVTR for silica coated PET, with a thickness lying within the range disclosed by Iino et al., is about 2 g/m^2 day (see p. 352, column 2). This film has a lower WVTR than EVA.

Regarding claim 7, the moistureproof layer **2** is formed to cover the interval parts between the solar cell elements **7** (fig. 3).

The solar cell module of Iino et al. differs from the instant invention because Iino et al. do not teach that the light transmitting member on the front side contains at least sodium, as recited in claim 1.

Yamagishi et al. show a solar cell module that has a sodium containing light transmitting member **1**, a rear surface resin film **8** and a plurality of solar cell elements sealed with sealing resin **9** between the front member **1** and the rear surface member **8** (col. 3, line 18; col. 4, line 14; fig. 1). In the solar cell module of Yamagishi et al., the rear surface resin film **8** also functions as the water transmission preventing layer (col. 5, line 59). The light transmitting member **1** is made of soda lime glass, which is an inexpensive glass commonly used in solar cell modules (col. 7, line 29).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the glass used in Iino et al. to use soda lime glass as taught by Yamagishi et al. because soda lime glass is an inexpensive glass often used in solar cell modules.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamagishi et al. (U.S. Pat. No. 6,300,556) in view of Otani et al. (PG-Pub 2001/0009160 A1).

Yamagishi et al. disclose a solar cell module comprising a sodium containing light transmitting member **1**, a rear surface resin film **8** and a plurality of solar cell elements sealed with sealing resin **9** between the front member **1** and the rear surface member **8** (col. 3, line 18; col. 4, line 14; fig. 1). In the solar cell module of Yamagishi et al., the rear surface resin film **8** also functions as the water transmission preventing layer (col. 2, lines 17-24; col. 5, line 59). The light transmitting member **1** is made of soda lime glass (col. 7, line 29). Yamagishi et al. also state, "[I]t is highly desired to prevent the penetration of water through a peripheral portion of the solar cell module and to improve the weather resistance of the solar cell module" (col. 1, line 66 to col. 2, line 2).

The solar cell module of Yamagishi et al. differs from the instant invention because Yamagishi et al. do not disclose that the rear surface resin film has a WVTR not higher than 6.3 g/m^2 day, as recited in claim 11.

Otani et al. disclose the use of a resin film made of PET to a thickness of 250μm, which corresponds to a WVTR of 2.5 g/m^2 day (par. [0044]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the solar cell module of Yamagishi et al. to use the resin film of Otani et al. as the rear resin film because the resin film taught by Otani

et al. has a very low WVTR, which would help prevent against performance degradation due to water absorption.

Response to Arguments

9. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

10. Regarding claim 9, which is now rewritten in independent form as claim 11, Applicant argued, "Yamagishi and Otani, either alone or in combination, fail to disclose or suggest the claimed invention" (see page 9 of Applicant's response). This argument is not persuasive because Otani et al. teach the use of a resin film that has a WVTR that lies within the range recited in the instant invention, not higher than 6.3 g/m^2 day. Furthermore, both Otani et al. and Yamagishi et al. define the purpose of the resin films as protective films for preventing the penetration of water (see US '556 col. 1, line 66 to col. 2, line 2; col. 2, lines 17-24; and col. 5, lines 59-62; and US '160 par. [0042]). In light of the teachings of both references, one skilled in the art would recognize the desirability of lowering the WVTR as much as possible and would be motivated to do so for the purpose of preventing against performance degradation due to water absorption.

Allowable Subject Matter

11. Claims 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 5 and 10 are distinguished over the

prior art of record because the prior art does not teach or suggest the us of a glass water transmission preventing layer positioned between the light transmitting front surface member and the rear surface resin film. Dran et al. (U.S. Pat. No. 4,321,418) teach the use of a glass water transmission preventing layer and a resin film, but the glass layer is positioned outside of the resin film.

12. Claim 6 is distinguished over the prior art of record, which does not teach or suggest the use of a water transmission prevention layer in a solar cell module that is formed on the same plane as the solar cell modules, i.e., the water transmission prevention layer is coplanar with the solar cells within the module and within the sealing resin.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Mutschler whose telephone number is (703) 305-0180. The examiner can normally be reached on Monday-Friday from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (703) 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

NAM NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

blm
August 13, 2003